UNIQUE IDENTIFICATION (UID)

Unique Identification (UID) of Tangible Items

Technical Interface Working Group – August 6, 2003

Session Objectives

- Level-set Working Group on objective of UID
- Identify and define data required to support UID policy
- Identify steps in business process to acquire UID data
- Identify existing capabilities that can be used to support UID policy
- Revise WAWF Receipts and Acceptance functional requirements document

Session Agenda

- Introductions
- UID Overview
  - BREAK
- UID Technical Concept Review
- Minimum Data Requirements for UID Objectives
  - LUNCH
- Existing UID “like” Capabilities
  - BREAK
- Approach for Acquiring (WAWF) and Storing (Registry) Data
- Next Steps

DoD Vision for Item Marking

- To create a policy establishing a strategic imperative for uniquely identifying tangible items relying to the maximum extent practical on international standards and commercial item markings.
- Uniquely identified (UID) tangible items will facilitate item tracking in DoD business systems and provide reliable and accurate data for management, financial, accountability and asset management purposes.

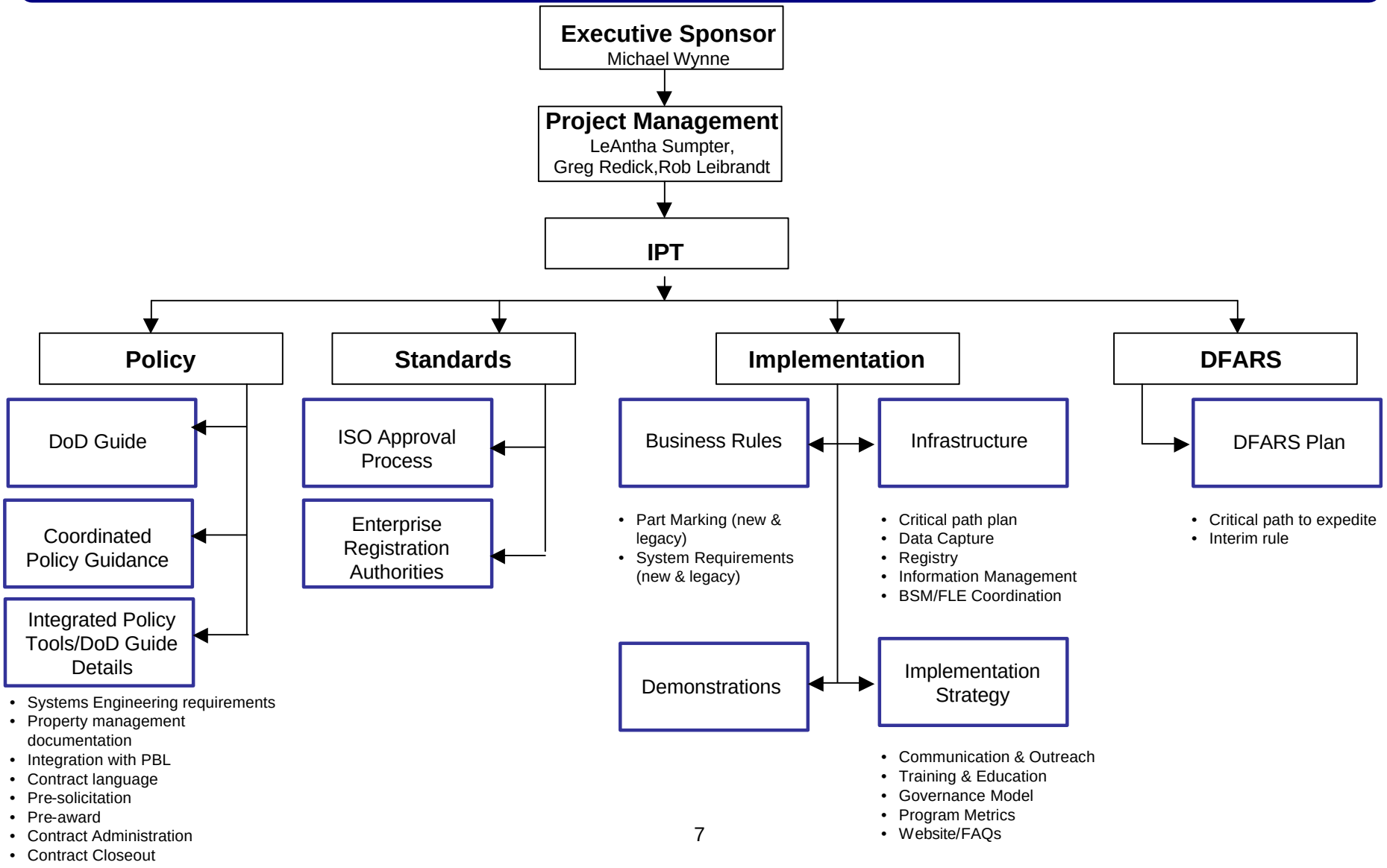
Strategic Purpose of UID is to…

- Integrate item data across government and industry asset management systems, resulting in:
  - Improved data quality and global interoperability
  - Rationalization of systems and infrastructure
- Improve item management and accountability
- Improve asset visibility and life-cycle management through life cycle traceability
- Enable more accurate audit opinions on the property, plant, and equipment and operating materials and supplies portions of financial statements

DoD's Approach to UID

- The Department of Defense (DoD) established a joint international/industry/government Integrated Product Team (IPT) to achieve the following goals:
  - Identify the UID data standard and business rules
  - Develop a feasible and rapid implementation strategy
- The IPT consists of four simultaneous efforts:
  - Policy
  - Standards
  - Implementation
  - DFARS Cases

Current Organizational Structure



Policy Effort

The Policy efforts-to-date have included:

- Publishing the July policy and policy forecast memos
- Identifying and completing coordinated guidance
- Finalizing the first version of the Unique Identification Guidance (UID Guide) for implementing UID

DFARS Effort

The DFARS Cases efforts-to-date have included:

- The public hearing was held on May 28, 2003
- Responding to comments made during the hearings
- Developing a final draft rule to submit to DAR Council

UID Item Valuation

- Fixed Price
  - Each Item will be delivered on a CLIN or SLIN
  - Items ancillary to a deliverable line may be shown on an informational SLIN
  - Informational SLINs include estimated value in the description
  - These informational SLIN values do not have to total to the item price
- Cost Type
  - Items requiring UID or over $5K will require separate line items and separate accumulation of costs
  - Under $5K, contractor will provide a report at delivery listing:
    - Nomenclature
    - Line item
    - Unit value (not paid)
    - UID or other identifier

Standards Team

The Standards Team efforts-to-date have included:

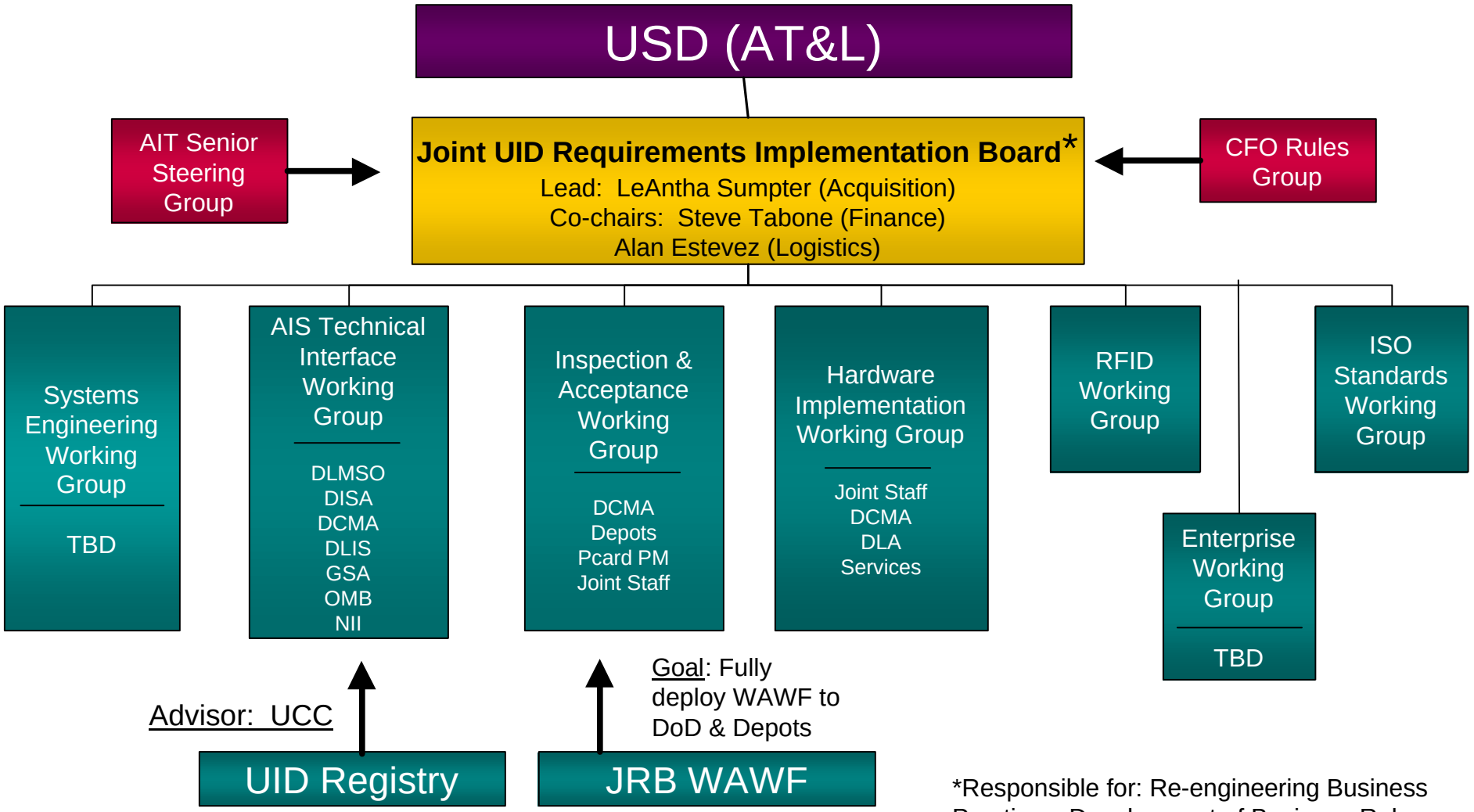
- Establishing the UID Constructs #1 and #2
- Identifying the collaborative solution
- Adding the necessary semantics to all three data standards to support the elements of the UID

Implementation Team

The Implementation Team efforts-to-date have included:

- Developing an AIS infrastructure plan to accommodate the UID
- Creating a DRAFT communications strategy
- Finalizing the UID business rules for marking, conformance, and data capture
- Reviewing existing serial number tracking and UID-related implementation programs to develop best practices for UID

Future Organizational Structure



*Responsible for: Re-engineering Business Practices, Development of Business Rules, Recommending Pilot Programs/Projects

UID Lifecycle

What is Unique IDentification (UID)?

UID is . . .

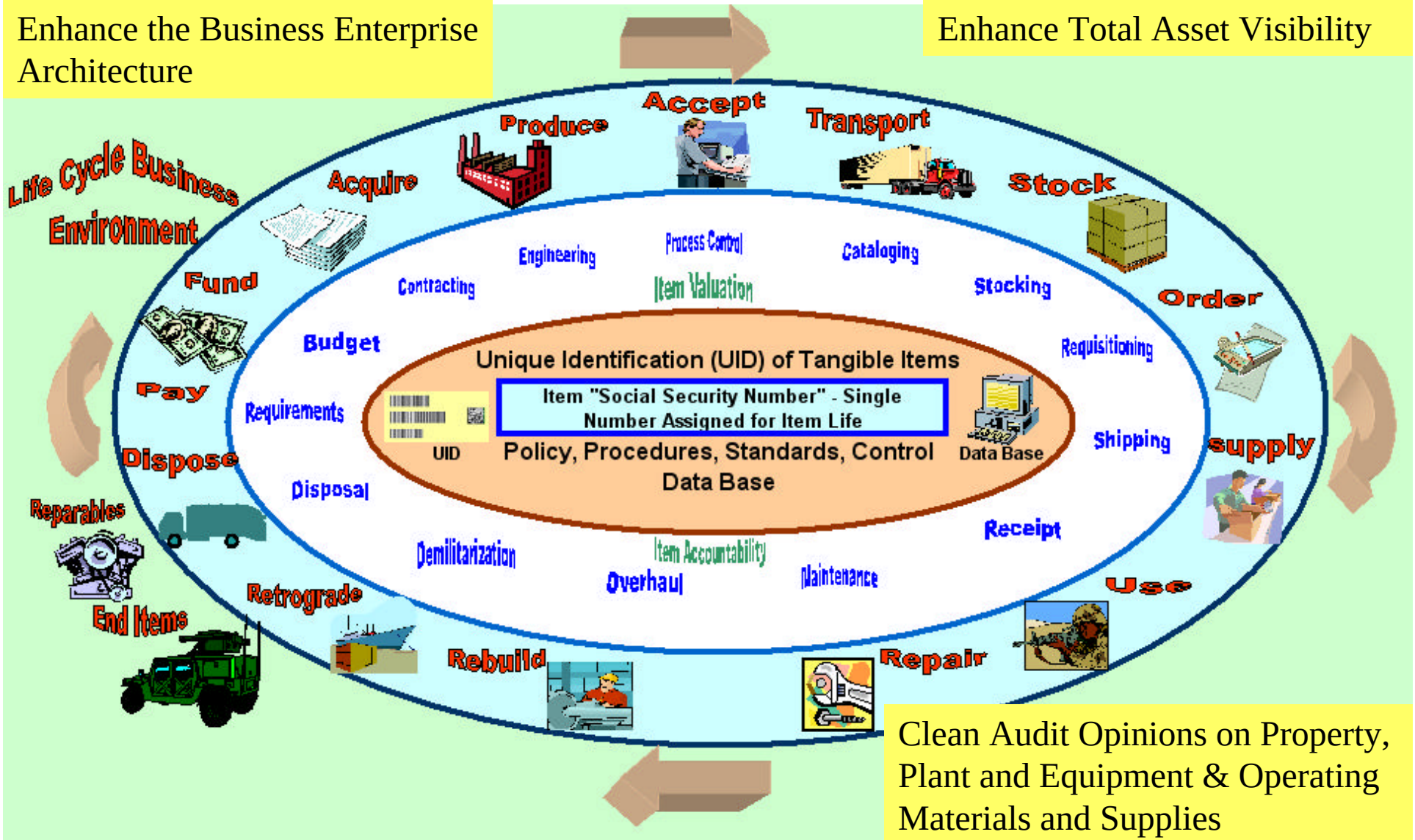
. . . the set of data for tangible assets that is globally unique and unambiguous, ensures data integrity and data quality throughout life, and supports multi-faceted business applications and users.

EID	194532636	
Original Part Number	1234	
Serial Number	786950	

UID Role - Business Enterprise Architecture

Enhance the Business Enterprise Architecture

Enhance Total Asset Visibility

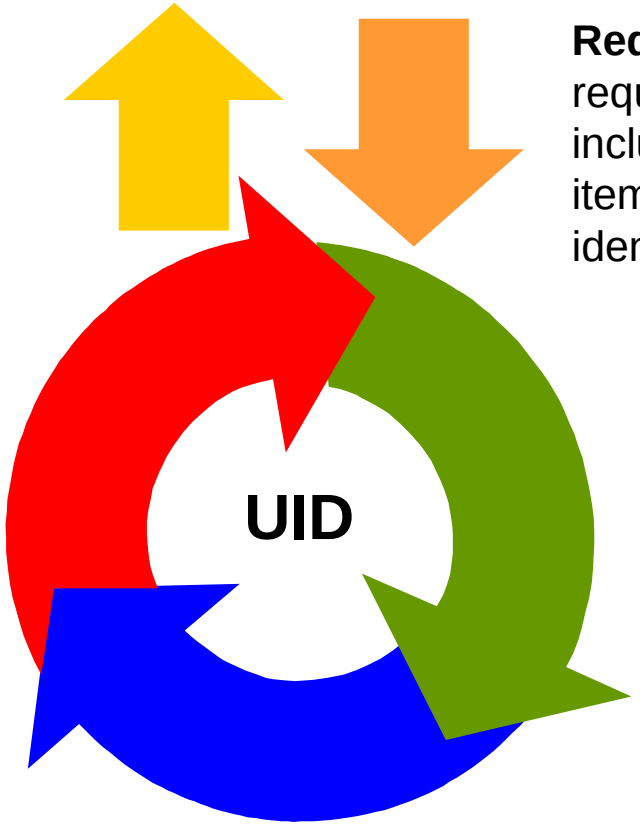


Clean Audit Opinions on Property, Plant and Equipment & Operating Materials and Supplies

What is the UID Lifecycle?

Dispose – DoD/GSA records the "termination" of the UID at time of item disposal

Require – DoD contracts reflect the requirement for part marks to include UID data elements for all items which require unique identification

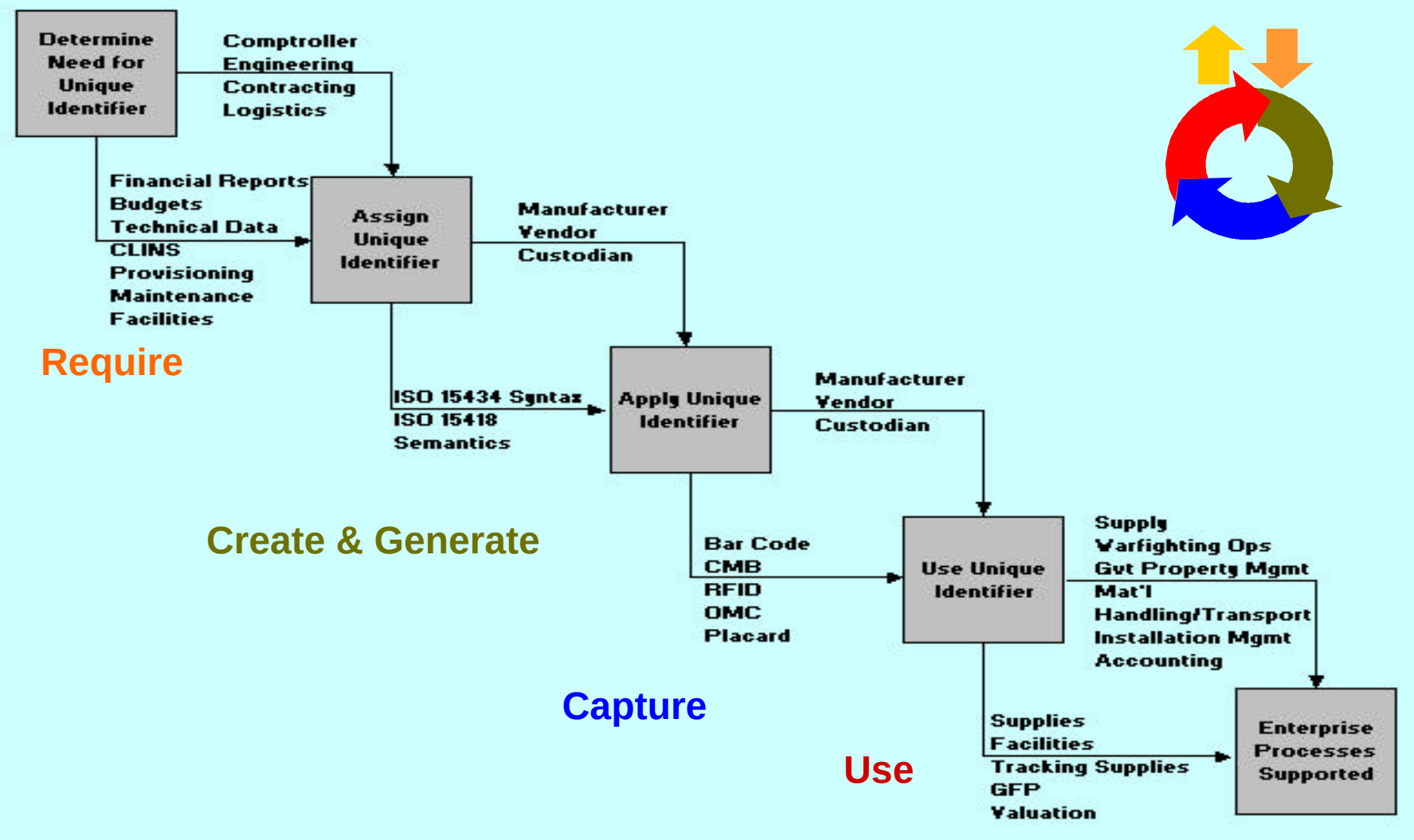


Use – Functional stakeholders use UID as a primary or alternate key in the AIS to access or update item information based on its UID

Create/Generate – Industry suppliers/manufacturers throughout supply chain assign and apply UID data elements and ensure the uniqueness of the component data elements

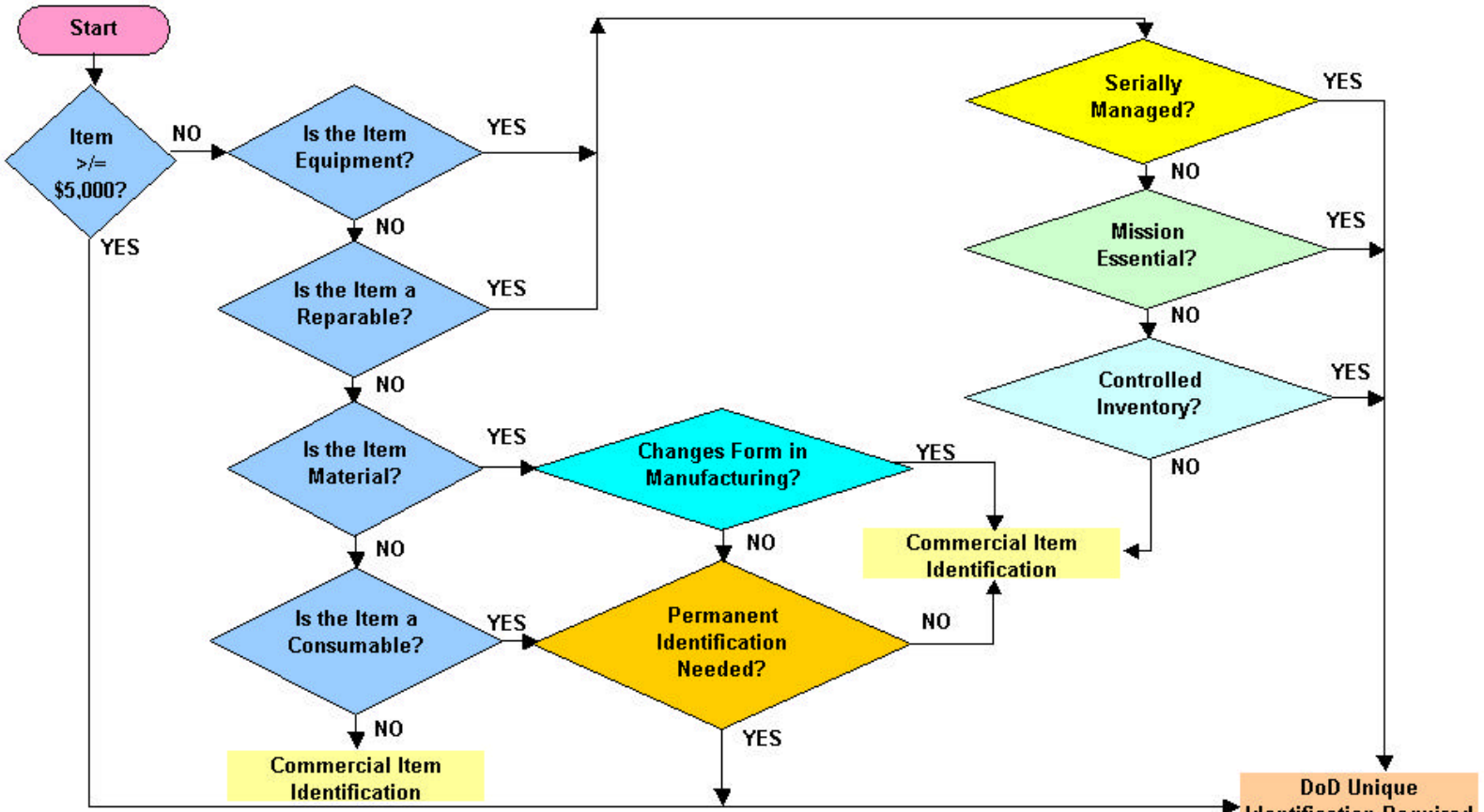
Capture – DoD establishes the "birth" record of the UID by capturing the machine/human readable component data elements to create the UID in the AIT/AIS

UID Lifecycle & Interface Flow



Require the UID

Which Items Require a Unique Identifier (UID)?

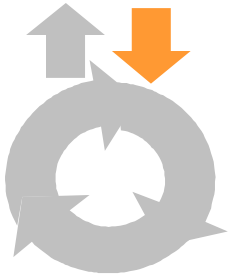


Commercial item identification examples are the Universal Product Code and Health Industry Bar Code

Require the UID

- All program managers for new equipment, major modifications, and reprocurements of equipment and spares shall begin planning to apply Unique Identification (UID) on tangible items
- UID is a mandatory DoD requirement for all solicitations issued on or after January 1, 2004
- Specific guidance related to UID requirements can be found by referring to the following sources:
  - DFARS (under revision to include UID)
  - DoD Guide to Unique Identification of Tangible Items
  - Coordinated Policy Guidance
  - www.acq.osd.mil/uid

Require the UID



Stakeholder	Role	Benefits
Engineering	Include UID data elements in equipment specifications and engineering drawings.	Enhances the ability to provide innovative, tailored product data lifecycle management, strengthen customer relationships, and foster better "buyer - vendor" partnerships.
Acquisition	Include UID requirements in contracts.	Provides for the economical application of the UID at the “birth” source of the product – the vendor.
Logistics	Include UID data elements in logistics AISs.	Provides enhancement of the logistics operations of inventory acceptance, item accountability, storage, issue, receipt, valuation, maintenance, asset visibility (in storage, transit and use), and disposal.
Finance	Include UID for tangible items valued $100,000 and above in acquisition cost in the general ledger and in DoD financial management systems.	Provides the basis for consistent accounting for the Property, Plant and Equipment; Inventory; and Operating Materials and Supplies portions of DoD financial statements.
Property Management	Include UID in accountable records for all property (i.e., tangible items characterized as equipment, materials and consumables) purchased, having a unit acquisition cost of over $5,000 or more, and items that are classified or sensitive regardless of acquisition cost.	Improved visibility and accountability over tangible items, which helps ensure continuation of operations, increased productivity, and improved control of inventories and government property in the possession of contractors.

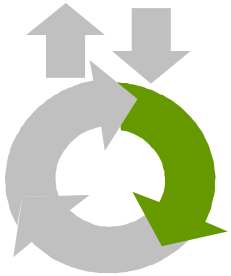
Create and Generate the UID

The components that make up the UID are identified in the table below. Each enterprise has two options for creating the UID.

	UID Construct #1	UID Construct #2
Based on current enterprise configurations	If items are serialized within the Enterprise	If items are serialized within Part Number
UID is derived by concatenating the data elements IN ORDER:	Issuing Agency Code* Enterprise ID Serial Number	Issuing Agency Code* Enterprise ID Original Part Number Serial Number
Data Identified on Assets Not Part of the UID (Separate Identifier)	Current Part Number	Current Part Number

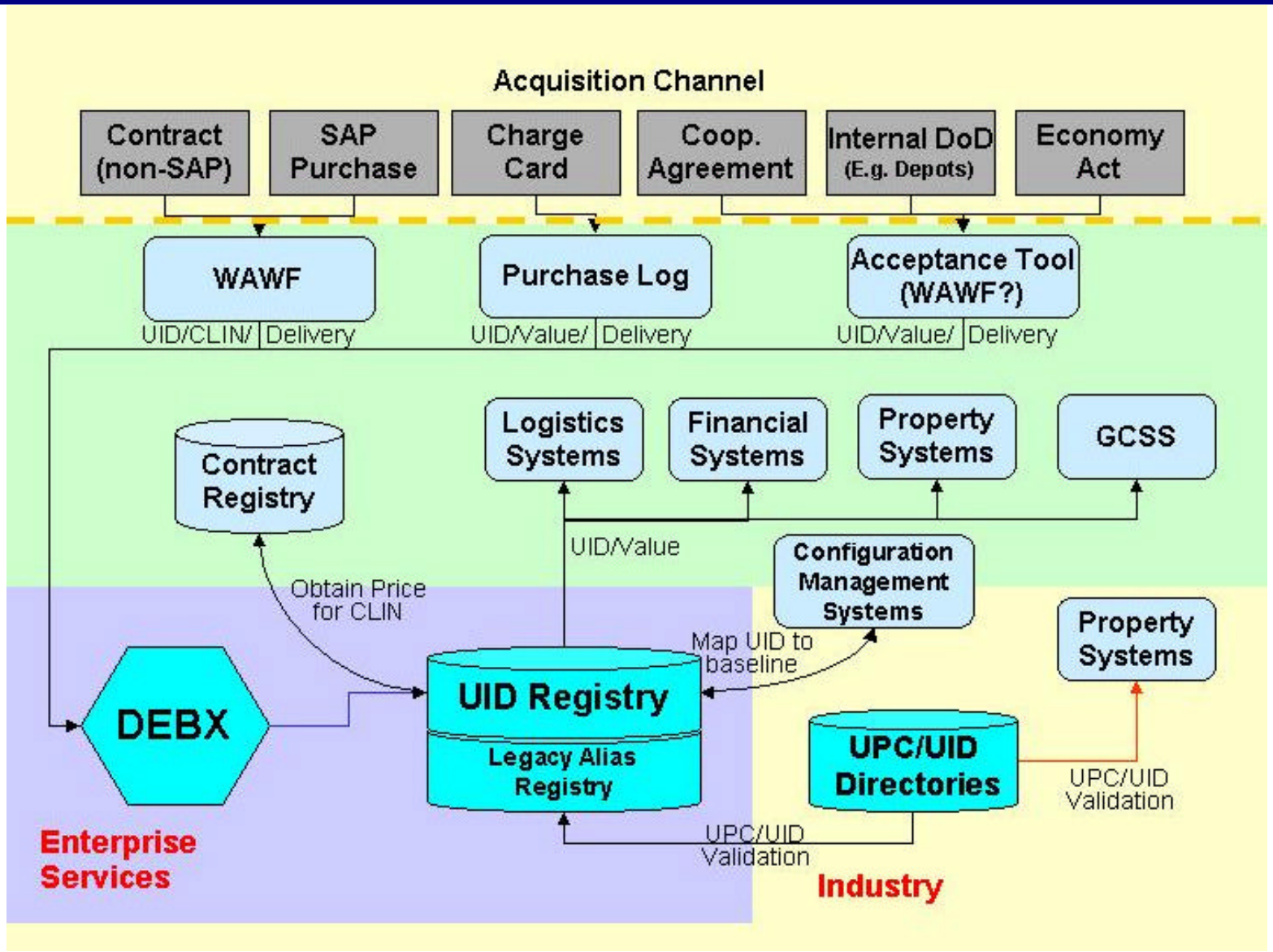
*The Issuing Agency Code (IAC) represents the registration authority that issued the enterprise identifier (e.g., Dun and Bradstreet, EAN.UCC). The IAC can be derived from the data qualifier for the enterprise identifier and does not need to be marked on the item.

Create and Generate the UID

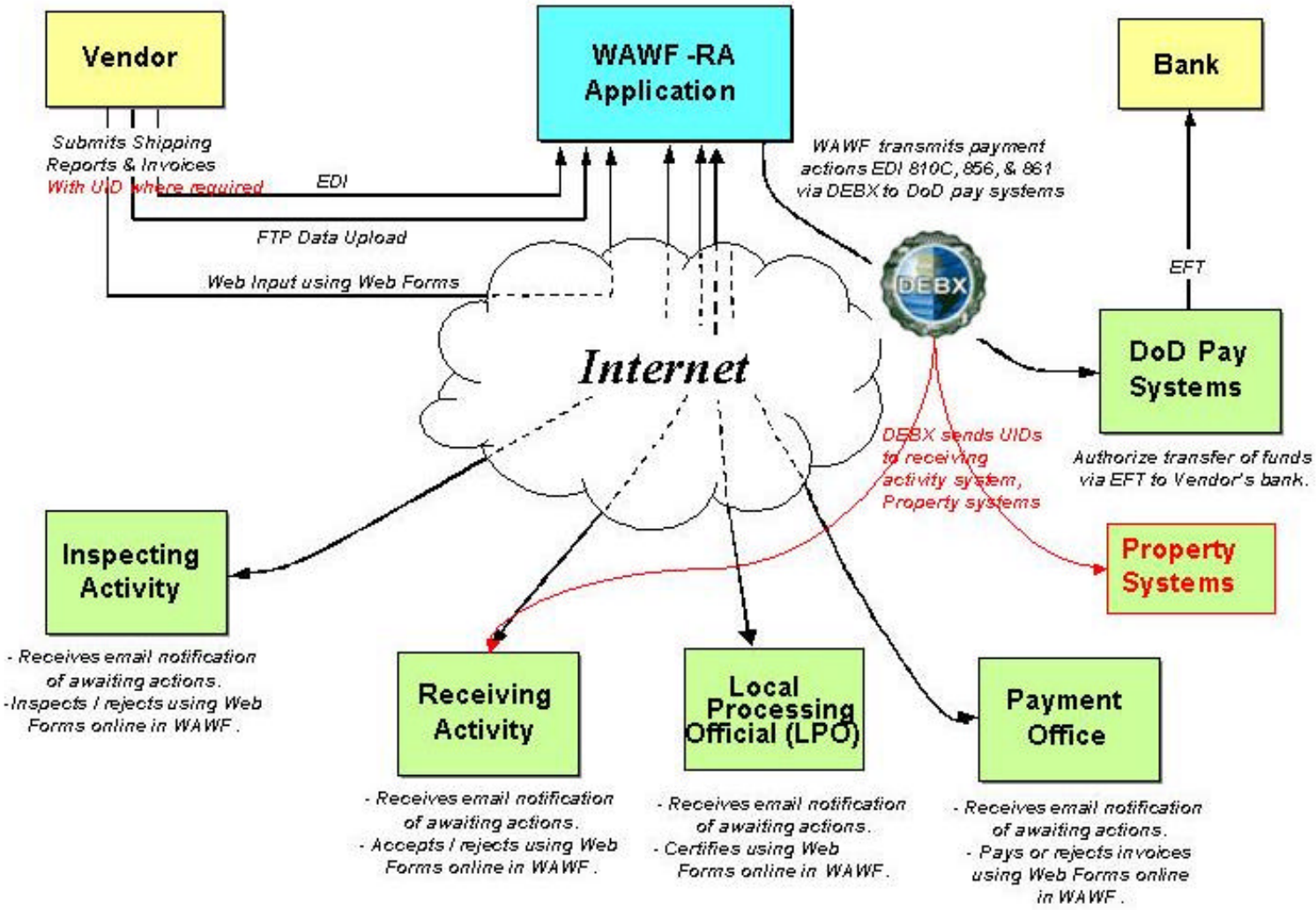


Stakeholder	Role	Benefits
Engineering	Prepares documentation of technical data that defines tangible items	Enhances ability to produce a consistent product and fully document the as-built condition of the products being tested and delivered.
Industry/supply chain contractors	Ensure the appropriate data elements to construct the UID are marked on the component, and uniqueness is guaranteed.	Provides the basis for enhanced product life cycle management.

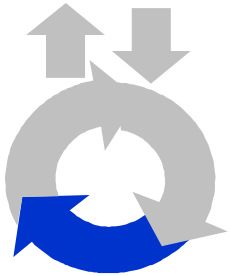
Capture the UID



Capturing and Initiating UID Use



Capture the UID



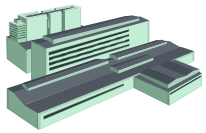
Stakeholder	Role	Benefits
Acquisition	Provide for contractual delivery of the UID “birth” record upon tangible acceptance and upload the Central UID Registry.	Provides the basis for application of the UID data elements as items enter the DoD inventory.
Logistics	Provide for the application of the UID data elements to legacy items in operational use.	Facilitates the valuation, asset accounting and life cycle management of the operational inventory.

UID in the Supply Chain

Product Data	Supply Chain	Unique Items	UID **

Enterprise

Prime — PN 200H0028 — End Item Specs



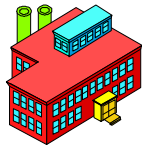
Item Markings
EI 194532636
PN 200H0028
SN 003896*

UN194532636200H0028003896

Delivery to Govt
End Item

List of Hardware UIDs
(Optional)

Tier 1 — PN 210H0611 — Subassembly Specs



Item Markings
EI 040535536
PN 210H0611
SN 006392*

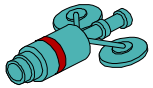
UN040535536210H0611006392

Delivery to Govt
Spares

List of Hardware UIDs
(Optional)

Tier 2 — PN 216H1439 — Component Specs

Item Markings
EI 080907280
PN 216H1439
SN 020890*



UN080907280216H1439020890

Delivery to Govt
Spares

List of Hardware UIDs
(Optional)

Tier 3 — PN 218H2861 — Part Specs

Item Markings
EI 083949107
PN 218H2861
SN 105742*

UN083949107218H2861105742

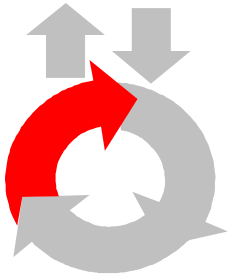
Delivery to Govt
Spares

**UN = Issuing Agency Code for DUNS

UID = Unique Identifier; EI = Enterprise Identifier
PN = Part Number; SN = Serial Number

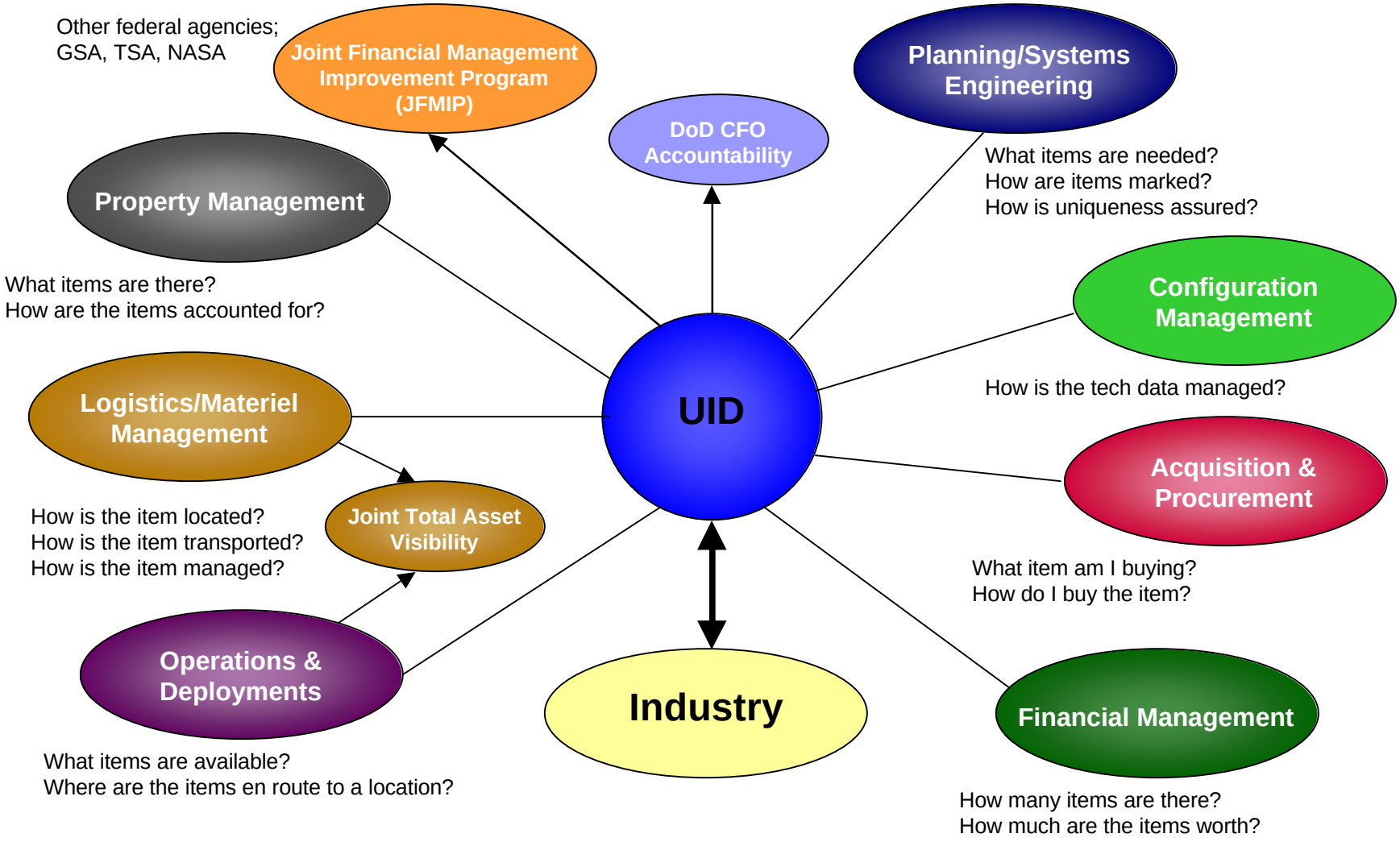
* Serialized within the part number using DUNS

Use the UID



Stakeholder	Role	Benefits
Engineering	Use UID in the management of product data that describes tangible items throughout their useful life.	Seamless transfer of product data (specifications or bills of material) into the supply chain to allow for faster production ramp-up and to speed up engineering change processes.
Acquisition	Use the UID in tangible item delivery, inspection and acceptance.	Provides for efficient capture of the UID data elements.
Logistics	Use the UID in inventory acceptance, item accountability, storage, issue, receipt, valuation, maintenance, asset visibility (in storage, transit and use), and disposal.	Improved asset visibility and life cycle management.
Finance	Use the UID to account for the value of Property, Plant and Equipment; Inventory; and Operating Materials and Supplies in DoD financial statements	Clean audit opinions on DoD financial statements.
Property Management	Use the UID in the DoD property accountability records and AISs.	Physical controls and accountability over tangible items reduce the risk of (1) undetected theft and loss, (2) unexpected shortages of critical items, and (3) unnecessary purchases of items already on hand.
Industry/supply chain	Use the UID/constituent data elements (enterprise ID, serial # and part #) to manage tangible items over their lifetime.	Enhances ability to provide innovative, tailored products and strengthen customer relationships through superior maintenance offerings which increases customer satisfaction and fosters better "buyer - vendor" partnerships.

UID Interfaces



Next Steps

What's Next

- Investigate open issues
- Distribute meeting minutes and action items
- Plan for next team meeting on (DATE)

Backups

Create and Generate the UID

- Data qualifiers (semantics) will define each machine-readable data element marked on the item.
- The data qualifier associated with the serial number will identify which UID construct is used to build the UID.

Semantics Translation Between Data Identifiers (DI), Application Identifiers (AI), and Text Element Identifiers (TEI)[1]

Enterprise ID	DI	AI	TEI
CAGE/NCAGE	17V		CAG
DUNS	12V		DUN
EAN.UCC			EUC
Serial No. w/in Enterprise Identifier	18S	8004	SER
Serial No. w/in Original Part No.	S	21	SEQ
Original Part No.	1P	01	PNO
Current Part No.	30P	240	PNR

1 Blank boxes indicate the need for updates to the standards.

Capture the UID

- For activities after initial delivery, in support of the product life cycle, any entity that collects data about the item must be capable of associating the data with the UID in accordance with the program requirements.
- Using the syntax and the semantics translation table on the prior slide, software that resides either in the AIT device or the AIS can translate between the three approved, interoperable formats

Formats:

TEI: (Format has to be assigned by SC 31, all 2-digit numbers used or reserved)

[)>RS*DD*GSDUN194532636GSPNO1234GSSEQ786950EOT

EAN.UCC: Application Identifiers

[)>RS05GS*TBD*194532636GS011234GS21786950EOT

MH 10.8.2: Data Identifiers

[)>RS06GS12V194532636GS1P1234GSS786950EOT

Capture the UID

BUSINESS RULES

- When constructing the UID:
  - Spaces will be deleted
  - Special characters will be deleted from the enterprise identifier
  - Special characters will not be deleted from the part number or serial number

UID Construct #1[1]

EID **12V194532636**

Serial No. **18S786950**

UID Construct #2[1]

EID **12V194532636**

Orig. Part No. **1P1234**

Serial No. **18S786950**

Current Part No. 30P5678

UID Construct #1
UN194532636786950

IAC EID Serial No.

UID Construct #2
UN1945326361234786950

IAC EID Orig. Part No. Serial No.

[1] This example uses MH10.8.2 Data Identifiers.

Capture the UID

BUSINESS RULES

- In a database, once the UID is derived, it shall not be parsed to determine the original elements[1]

EID	**12V194532636**
Orig. Part No.	**1P1234**
Serial No.	**18S786950**
Current Part No.	**30P5678**

Record ID	UID (Constructed with a Business Rule)	EID	Orig. Part No.	Serial No.	Current Part No.	"Other Data"…
	UN1945326361234786950	194532636	1234	786950	5678	→ → →

Incremental

Never Changes (mandatory for audit)

Can Change

[1] This example uses MH10.8.2 Data Identifiers.

Create and Generate the UID

BUSINESS RULES

- The UID shall be derived from its discrete component data elements. The UID is not required to be marked on the item as a separate data element.[1]

UID Construct #1[2]

EID **12V194532636**

Serial No. **18S786950**

UID Construct #2[2]

EID **12V194532636**

Orig. Part No. **1P1234**

Serial No. **18S786950**

[1]If the enterprise chooses to mark the UID as a discrete data element on the item, the component data elements must also be marked on the item as discrete data elements, in addition to the UID.

[2] This example uses MH10.8.2 Data Identifiers.